

IN THE CLAIMS

Please cancel claims 2-20 and 23, amend claims 21, 24, and 26, and add new claims 29-45. Below are the now-pending claims.

1. (Original) A semiconductor package comprising:
a substrate;
a first die on and electrically coupled to the substrate;
a support structure on the substrate over the first die;
a second die on the support structure over the first die
and electrically coupled to the substrate; and
a hardened unitary body of an encapsulant material covering
the first die, the support structure, and the second die,
wherein the encapsulant material is vertically between the first
die and the second die.

2-20. (Cancelled)

21. (Currently Amended) A semiconductor package comprising:
a substrate;
a first die electrically coupled to the substrate;
a second die electrically coupled to the substrate and
superimposed over the first die; and
a metal heat spreader disposed between the first and second
dies, thermally coupled to the first and second dies by
respective thermally conductive layers, and thermally coupled to
the substrate, wherein the second die is electrically coupled to
the substrate through at least one aperture in the heat
spreader; and

a unitary body of a hardened encapsulant covering the first
and second dies and filling an internal cavity of the heat
spreader.

22. (Original) The semiconductor package of claim 21, wherein the first die is electrically coupled to the substrate in a flip chip connection.

23. (Cancelled)

24. (Currently Amended) The semiconductor package of claim ~~21~~ 22, wherein the second die is electrically coupled to the substrate by ~~bond~~ conductive wires ~~that extend through apertures in the heat spreader.~~

25. (Original) The semiconductor package of claim 21, wherein the first and second dies are electrically coupled to the substrate by conductive wires.

26. (Amended) The semiconductor package of claim 21, further comprising a metal second heat spreader superimposed over the first and second dies, and thermally coupled between the second die and the substrate.

27. (Original) The semiconductor package of claim 26, wherein the second heat spreader is thermally coupled to an active surface of the second die.

28. (Original) The semiconductor package of claim 27, wherein the first die is electrically coupled to the substrate in a flip chip connection.

29. (New) The semiconductor package of claim 28, wherein the second die is electrically coupled to the substrate by at least two conductive wires each of which extends through a respective said aperture in the heat spreader, and by at least

one conductive wire that contacts the substrate outward of a perimeter of the heat spreader.

30. (New) The semiconductor package of claim 28, wherein the second die is electrically coupled to the substrate by at least two conductive wires each of which extends through a respective said aperture in the heat spreader.

31. (New) The semiconductor package of claim 26, wherein the first and second dies are electrically coupled to the substrate by conductive wires.

32. (New) The semiconductor package of claim 31, wherein the second die is electrically coupled to the substrate by at least two conductive wires each of which extends through a respective said aperture in the heat spreader.

33. (New) A semiconductor package comprising:
a substrate;
a first die electrically coupled to the substrate;
a second die superimposed over the first die; and
a metal first heat spreader, wherein the first heat spreader is thermally coupled between the inactive surface of the first die and the inactive surface of the second die, and is thermally coupled to the substrate, and the second die is electrically coupled to the substrate through at least one aperture in the heat spreader; and

a unitary body of a hardened encapsulant covering the first and second dies and filling an internal cavity of the first heat spreader.

34. (New) The semiconductor package of claim 33, wherein the second die is electrically coupled to the substrate by at least two conductive wires each of which extends through a respective said aperture in the heat spreader.

35. (New) The semiconductor package of claim 34, wherein the second die also is electrically coupled to the substrate by at least one conductive wire that does not extend through any aperture in the first heat spreader.

36. (New) The semiconductor package of claim 34, wherein the second die also is electrically coupled to the substrate by at least one conductive wire that contacts the substrate outward of a perimeter of the heat spreader.

37. (New) The semiconductor package of claim 33, further comprising a metal second heat spreader superimposed over the first and second dies, and thermally coupled between the active surface of the second die and the substrate, wherein the encapsulant fills an internal cavity of the second heat spreader.

38. (New) The semiconductor package of claim 33, further comprising a metal second heat spreader superimposed over the first and second dies, and thermally coupled between the active surface of the second die and the substrate.

39. (New) A semiconductor package comprising:
a substrate;
a first die electrically coupled to the substrate by
conductive wires;

a second die superimposed over the first die and electrically coupled to the substrate by conductive wires; and

a metal first heat spreader, wherein the first heat spreader is thermally coupled between the active surface of the first die and the inactive surface of the second die, and is thermally coupled to the substrate, and the second die is electrically coupled to the substrate through at least one aperture in the heat spreader; and

a unitary body of a hardened encapsulant covering the first and second dies and filling an internal cavity of the first heat spreader.

40. (New) The semiconductor package of claim 39, wherein the second die is electrically coupled to the substrate by at least two conductive wires each of which extends through a respective said aperture in the heat spreader.

41. (New) The semiconductor package of claim 40, wherein the second die also is electrically coupled to the substrate by at least one conductive wire that does not extend through any aperture in the first heat spreader.

42. (New) The semiconductor package of claim 40, wherein the second die also is electrically coupled to the substrate by at least one conductive wire that contacts the substrate outward of a perimeter of the heat spreader.

43. (New) The semiconductor package of claim 39, further comprising a metal second heat spreader superimposed over the first and second dies, and thermally coupled between the active surface of the second die and the substrate, wherein the

encapsulant fills an internal cavity of the second heat spreader.

44. (New) The semiconductor package of claim 39, further comprising a metal second heat spreader superimposed over the first and second dies, and thermally coupled between the active surface of the second die and the substrate.

45. (New) The semiconductor package of claim 44, wherein the second die is electrically coupled to the substrate by at least two conductive wires each of which extends through a respective said aperture in the heat spreader.